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MECHANISM FOR PROVIDING A CONTINUOUS SUPPLY OF WAFERS AND CASSETTES TO A SEMICONDUCTOR FABRICATION TOOL

ABSTRACT OF THE DISCLOSURE

A load lock of a semiconductor processing tool includes a plurality of antechambers selectively isolatable from the main chamber of the load lock. The antechambers can function in tandem, serving as staging areas to enable maximum efficiency of wafer handling as the tool transfers wafers between various processing stages. The antechambers can also operate independently, with one antechamber isolated from the evacuated main load lock chamber and then vented, thereby permitting loading or unloading of cassettes or wafers while the main load lock chamber, the tool, and other antechambers remain occupied with wafer processing. In addition to wafer evacuation/venting, load lock antechambers in accordance with embodiments of the present invention may host a variety of other pre- or post-processing activities, such as wafer heating/cooling, exposure to purge/ambient gases, wafer orientation, wafer center-finding, and metrology.